Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method of inhibiting oxidation of a porous carbon-carbon composite comprising the steps of:

(a) contacting the carbon-carbon composite with an oxidation inhibiting composition comprising phosphoric acid or an acid phosphate salt, at least one aluminum salt, and at least one additional metal salt, the additional metal salt comprising a salt of an alkaline earth metal, boron, iron, tin, zinc or a mixture of two or more thereof, with the proviso that when the additional metal salt is a zinc phosphate it is a zinc phosphate octahydrate, the oxidation inhibiting composition penetrating at least some of the pores of the carbon-carbon composite; and

(b) heating the carbon-carbon composite at a temperature sufficient to form a deposit from the oxidation inhibiting composition within at least some of the penetrated pores of the carbon-carbon composite.

2. (Original) The method of claim 1 wherein the oxidation inhibiting composition has a metal to phosphate atomic ratio of about 0.26 to about 0.50.

3. (Original) The method of claim 1 wherein the weight ratio of the additional metal to aluminum is in the range of about 0.5 to 1 to about 5 to 1.

4. (Original) The method of claim 1 wherein the oxidation inhibiting composition further comprises water, a nonaqueous polar liquid, or a mixture thereof.

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Original) The method of claim 1 wherein the additional metal salt comprises an alkaline earth metal salt.

9. (Original) The method of claim 1 wherein the additional metal salt comprises an alkaline earth metal phosphate.

10. (Original) The method of claim 1 wherein the additional metal salt comprises a magnesium phosphate.

11. (Original) The method of claim 1 wherein the additional metal salt comprises an alkaline earth metal nitrate, an alkaline earth metal halide, an alkaline earth metal sulfate, or a mixture of two or more thereof.

12. (Original) The method of claim 1 wherein the additional metal salt comprises a magnesium nitrate, magnesium halide, magnesium sulfate, or a mixture of two or more thereof.

13. (Original) The method of claim 1 wherein the additional metal salt comprises: (i) magnesium phosphate; and (ii) a magnesium nitrate, magnesium halide, magnesium sulfate, or a mixture of two or more thereof.

14. (Original) The method of claim 1 wherein the aluminum salt comprises an aluminum halide, an aluminum nitrate, an aluminum phosphate, aluminum sulfate, or a mixture of two or more thereof.

15. (Original) The method of claim 1 wherein the aluminum salt comprises mono-aluminum phosphate.

16. (Original) The method of claim 1 wherein the oxidation inhibiting composition further comprises a wetting agent.

17. (Original) The method of claim 16 wherein the wetting agent comprises a polyol, an alkoxylated monohydric alcohol, a silicone surfactant, a polysiloxane, or a mixture of two or more thereof.

18. (Original) The method of claim 1 wherein the oxidation that is inhibited is a catalyzed oxidation.

19. (Original) The method of claim 1 wherein the composite is heated during step (b) at a temperature in the range of about 200°C to about 1000°C.

20. (Original) The method of claim 1 wherein a barrier coating is applied to at least one surface of the carbon-carbon composite prior to step (a) or subsequent to step (b).

21. (Original) The method of 20 wherein the barrier coating comprises a carbide or a nitride.

22. (Original) The method of claim 20 wherein the barrier coating comprises boron nitride, silicon carbide, titanium carbide, boron carbide, silicon oxycarbide, silicon nitride, or a mixture of two or more thereof.

23. (Original) The method of claim 20 wherein the barrier coating is applied to the carbon-carbon composite using chemical vapor deposition.

24. (Original) The method of claim 20 wherein the barrier coating is formed by reacting the carbon-carbon composite with molten silicon.

25. (Original) The method of claim 1 wherein the depth of penetration of the oxidation inhibiting composition into the pores of the carbon-carbon composite is in the range of about 2.5 to about 5 millimeters.

26. (Original) The method of claim 1 wherein the metal to phosphate atomic ratio for the oxidation inhibiting composition is adjusted to be in the range of about 0.26 to about 0.50 by adding a metal salt to the oxidation inhibiting composition.

27. (Original) The method of claim 1 wherein the metal to phosphate atomic ratio for the oxidation inhibiting composition is adjusted to be in the range of about 0.26 to about 0.50 by adding a metal nitrate or a metal halide to the oxidation inhibiting composition.

28. (Withdrawn) An oxidation inhibiting composition, comprising: water, a nonaqueous polar liquid, or a mixture thereof; phosphoric acid or an acid phosphate salt; an aluminum salt; and at least one additional metal salt.

29. (Withdrawn) The composition of claim 28 wherein the composition has a metal to phosphate atomic ratio in the range of about 0.26 to about 0.50.

30. (Withdrawn) The composition of claim 28 wherein the composition has a weight ratio of the additional metal to aluminum in the range from about 0.5:1 to about 5:1.

31. (Withdrawn) The composition of claim 28 wherein the cation of the additional metal salt is multivalent.

32. (Withdrawn) The composition of claim 28 wherein the additional metal salt comprises a salt of an alkaline earth metal, a transition metal, a multivalent non-metallic element, or a mixture of two or more thereof.

33. (Withdrawn) The composition of claim 28 wherein the cation of the additional metal salt is derived from an alkaline earth metal, boron, iron, manganese, tin, zinc, or a mixture of two or more thereof.

34. (Withdrawn) The composition of claim 28 wherein the additional metal salt comprises an alkaline earth metal salt.

35. (Withdrawn) The composition of claim 28 wherein the additional metal salt comprises an alkaline earth metal phosphate.

36. (Withdrawn) The composition of claim 28 wherein the additional metal salt comprises a magnesium phosphate.

37. (Withdrawn) The composition of claim 28 wherein the additional metal salt comprises a magnesium nitrate, magnesium halide, magnesium sulfate, or a mixture of two or more thereof.

38. (Withdrawn) The composition of claim 28 wherein the additional metal salt comprises: (i) magnesium phosphate; and (ii) a magnesium nitrate, magnesium halide, magnesium sulfate, or a mixture of two or more thereof.

39. (Withdrawn) The composition of claim 28 wherein the aluminum salt comprises aluminum halide, aluminum nitrate, aluminum phosphate, aluminum sulfate, or a mixture of two or more thereof.

40. (Withdrawn) The composition of 28 wherein the aluminum salt comprises mono-aluminum phosphate.

41. (Withdrawn) The composition of claim 28 wherein the composition further comprises a wetting agent.

42. (Withdrawn) The composition of claim 41 wherein the wetting agent comprises a polyol, an alkoxylated monohydric alcohol, a silicone surfactant or a mixture of two or more thereof.

43. (Withdrawn) The composition of claim 41 wherein the wetting agent comprises a polysiloxane.

44. (Withdrawn) The composition of claim 28 wherein the composition further comprises a metal nitrate.

45. (Withdrawn) The composition of claim 44 wherein the metal nitrate comprises magnesium nitrate.

46. (Withdrawn) The composition of claim 28 wherein the composition further comprises a metal halide.

47. (Withdrawn) The composition of claim 46 wherein the metal halide comprises magnesium chloride.

48. (Withdrawn) The composition of claim 28, wherein: the phosphoric acid or acid phosphate salt is present at a concentration in the range from about 15 weight percent to about 70 weight percent; the aluminum salt is present at a concentration in the range of about 10 weight percent to about 50 weight percent; and the additional metal salt is present at a concentration in the range from about 0.5 weight percent to about 30 weight percent.

49. (Withdrawn) The composition of claim 41 wherein the wetting agent is present at a concentration in the range up to about 5 weight percent.

50. (Withdrawn) The composition of claim 44 wherein the metal nitrate is present at a concentration in the range from about 10 weight percent to about 23 weight percent.

51. (Withdrawn) The composition of claim 46 wherein the metal halide is present at a concentration in the range of about 5 weight percent to about 15 weight percent.

52. (Withdrawn) The composition of claim 28 wherein the composition further comprises nitric acid or a nitrate salt.

53. (Withdrawn) An oxidation inhibiting composition comprising: water; phosphoric acid or an acid phosphate salt; an aluminum salt; and at least one alkaline earth metal salt.

54. (Withdrawn) An oxidation inhibiting composition, comprising: water; phosphoric acid or an acid phosphate salt; an aluminum salt; and at least one alkaline earth metal salt; the composition having a metal to phosphate atomic ratio in the range of about 0.26 to about 0.50.

55. (Withdrawn) An oxidation-inhibited carbon-carbon composite treated by the method of claim 1.

56. (Withdrawn) A brake or brake component comprising a carbon-carbon composite treated by the method of claim 1.

57. (New) The method of claim 1, wherein step (a) comprises contacting a selected region of the carbon-carbon composite with the oxidation inhibiting composition.

58. (New) The method of claim 1, wherein the oxidation inhibiting composition is resistant to moisture sensitivity and reduces the treated carbon-carbon composite's sensitivity to reduction in friction.

59. (New) The method of claim 1, wherein the oxidation inhibiting composition has a moisture sensitivity of about 20% or less as indicated by the % moisture pick up of the composition in a humidity cabinet at 30°C or 40°C and 95% relative humidity.

60. (New) The method of claim 1, wherein the oxidation inhibiting composition has a moisture sensitivity of about 10% or less as indicated by the % moisture pick up of the composition in a humidity cabinet at 30°C or 40°C and 95% relative humidity.

61. (New) The method of claim 1, wherein the oxidation inhibiting composition has a moisture sensitivity of about 1% or less as indicated by the % moisture pick up of the composition in a humidity cabinet at 30°C or 40°C and 95% relative humidity.